

**BEST AVAILABLE COPY****IV. REMARKS**

Claims 13, 14, 16-19 and 21-24 are pending in this application. By this Amendment, the title, specification and claims 13 and 16 have been amended, claims 1-12, 15 and 20 have been cancelled, and claims 21-24 have been added. The above amendments and the following remarks are being made to facilitate early allowance of the presently claimed subject matter. Applicants do not acquiesce in the correctness of the objections and rejections and reserve the right to present specific arguments regarding any rejected claims not specifically addressed. Further, Applicants reserve the right to pursue the full scope of the subject matter of the original claims in a subsequent patent application that claims priority to the instant application. Reconsideration in view of the above amendments and following remarks is respectfully requested.

In the Office Action, the specification is objected to because the title of the invention is allegedly not descriptive. By this Amendment, a new title is provided that is clearly indicative of the invention. Accordingly, Applicants respectfully request withdrawal of the objection.

In the Office Action, claim 13 was objected to because there was allegedly insufficient antecedent basis for the limitation "the second layer." By this Amendment, claim 13 has been revised to correct a typographical omission of "the second layer" in the generating step. Accordingly, Applicants respectfully request withdrawal of the objection.

In the Office Action, the claims were objected to because they lack a proper introduction. By this Amendment, an introduction sentence has been added for the claims. Accordingly, Applicants respectfully request withdrawal of the objection.

In the Office Action, claims 1-2, 4-6, 8-9 and 11 are rejected under 35 U.S.C. §102(b) as being anticipated by Wallace et al. (USPN 6,277,681); claims 3, 7 and 12 are rejected under 35

U.S.C. §103(a) as being unpatentable over Wallace et al. and Thakur et al. (USPN 5,913,149); and claims 10 and 13-19 are rejected under 35 U.S.C. §103(a) as being unpatentable over Wallace et al. and Thakur et al., further in view of Muralidhar et al. (USPN 6,297,095). Applicants submit that the claimed subject matter is allowable and thus respectfully request withdrawal of the rejections for the reasons stated below.

With regard to claim 13, the combination of references fails to disclose or suggest each and every claimed feature. Specifically, none of the references discloses the claimed invention including "cleaning the layer including aluminum oxide in situ," as recited in independent claim 13. In the Office Action, it was asserted that Thakur et al. teach cleaning in situ (col. 4, lines 43-53). However, this cleaning is of a silicon surface, not a layer including aluminum oxide. Accordingly, Applicants submit that this step, *inter alia*, is not disclosed or suggested by the combination. Claim 13 has also been revised to remove the requirement for a rapid thermal nitridation in ammonia (NH<sub>3</sub>), which is now claimed in new dependent claim 24.

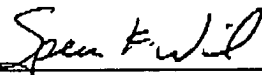
Applicants also submit that the combination of references is tenuous because of the divergent focuses of each of the references. In particular, the main focus of Wallace et al. is forming a gate structure having a crystalline silicon nitride layer on Si(111). This structure is not necessary for a capacitor. Thakur et al. relates to forming a silicon nitride stack on silicon dioxide to reduce pinholes and improve reliability statistics. This is in contrast to the claimed method of forming a capacitor. For example, no high-k dielectric concepts are mentioned in the Thakur et al. reference. Similarly, Muralidhar et al. relates to formation of flash memory, not capacitors, as in the claimed invention. Muralidhar et al. propose UHVCVD for the silicon nanocluster deposition. The silicon nanoclusters, however, act as floating gates, not capacitors. In view of the foregoing, Applicants submit that when the prior art of record is reviewed as a

whole, there is little motivation to pick-and-choose processing steps as asserted by the Office. Accordingly, Applicants request withdrawal of the rejections.

With regard to the dependent claims, claims 21-23 are restated original claims 4, 6 and 11. With special regard to claim 16, Applicants submit that the Office is misinterpreting this claim to require deposition within the stated temperature range. However, claim 16 actually recites that "the layer including aluminum oxide has a surface temperature of no less than approximately 600°C and no greater than approximately 900°C during the step of generating the second layer." This temperature is generated by the cleaning step (not the depositing step - compare para. 27 and 29 of the application) and is, *inter alia*, not disclosed by the combination. With special regard to dependent claim 17, Applicants submit that the Office has not fully addressed the details of that claim, e.g., the idle state pressures, and respectfully request that the details of that claim be indicated as allowable. The dependent claims not expressly addressed are believed allowable for the same reasons stated above, as well as for their own additional features.

Applicants respectfully submit that the application is in condition for allowance. Should the Examiner believe that anything further is necessary to place the application in better condition for allowance, he is requested to contact Applicants' undersigned attorney at the telephone number listed below.

Respectfully submitted,

  
\_\_\_\_\_  
Spencer K. Warnick  
Reg. No. 40,398

Date: 10/27/04

Hoffman, Warnick & D'Alessandro LLC  
Three E-Comm Square  
Albany, New York 12207  
(518) 449-0044  
(518) 449-0047 (fax)

**This Page is Inserted by IFW Indexing and Scanning  
Operations and is not part of the Official Record**

## **BEST AVAILABLE IMAGES**

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images include but are not limited to the items checked:

- ☐ **BLACK BORDERS**
- ☐ **IMAGE CUT OFF AT TOP, BOTTOM OR SIDES**
- ☒ **FADED TEXT OR DRAWING**
- ☒ **BLURRED OR ILLEGIBLE TEXT OR DRAWING**
- ☐ **SKEWED/SLANTED IMAGES**
- ☐ **COLOR OR BLACK AND WHITE PHOTOGRAPHS**
- ☐ **GRAY SCALE DOCUMENTS**
- ☒ **LINES OR MARKS ON ORIGINAL DOCUMENT**
- ☐ **REFERENCE(S) OR EXHIBIT(S) SUBMITTED ARE POOR QUALITY**
- ☐ **OTHER:** \_\_\_\_\_

**IMAGES ARE BEST AVAILABLE COPY.**

**As rescanning these documents will not correct the image problems checked, please do not report these problems to the IFW Image Problem Mailbox.**